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Michigan Educational Assessment Program

**Science Grade 5
Scoring Guide for
Released Item #36
Weather Data
Fall 2006**

MICHIGAN
Department of
Education

ANSWER THE FOLLOWING CONSTRUCTED-RESPONSE ITEM IN YOUR ANSWER DOCUMENT.

36 Constructed-Response A student read the weather forecast in the
(3 points) newspaper on Sunday. He decided to measure the accuracy of the forecast. For the four days, he took measurements for wind speed, air temperature, and amount of rainfall. He recorded his measurements in the table below.

Weather Data

	Temperature (°F)		Wind Speed (mph)	Rainfall (cm)
	Low	High		
Monday	48	64	10	6
Tuesday	39	63	25	0
Wednesday	37	59	28	12
Thursday	50	68	8	3

- On which day was the weather prediction **MOST** accurate?

- Explain why you think the weather predictions were accurate on this day. Make sure to use **at least two** pieces of information from the table.

NOTHING WRITTEN IN THIS TEST BOOKLET WILL BE SCORED.

Science Rubric for Weather Data

A student reads the weather forecast in the newspaper on Sunday. He decided to measure the accuracy of the forecast. For the four days, he took measurements for wind speed, air temperature and amount of rainfall. He recorded his measurements in the table below.

Weather Data

	Temperature (°F)		Wind Speed (mph)	Rainfall (cm)
	Low	High		
Monday	48	64	10	6
Tuesday	39	63	25	0
Wednesday	37	59	28	12
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- On which day was the weather prediction **MOST** accurate?
- Explain why you think the weather predictions were accurate on this day. Make sure to use **at least two** pieces of information from the table.

Sample Response:

Monday was the most accurate. The low temperature was predicted to be 48 degrees and the actual temperature was 48 degrees. The high temperature was predicted to be 67 degrees and the actual temperature was 64 degrees. The wind speed was predicted to be between 5 and 10 miles per hour and the actual wind speed was 10 miles per hour. There was a 60% chance of rain predicted and 6 cm of rainfall did occur.

Scoring Guide:

3   The student correctly chooses Monday and provides an explanation that includes at least two pieces of information from the table to support the explanation.

2   The student correctly chooses Monday and provides an explanation that includes only one piece of information from the table to support the explanation.
OR
The student correctly chooses Monday and provides at least two pieces of information from the table with no explanation.

1   The student correctly chooses Monday but fails to provide an explanation that includes data from the table

0   The student does not choose Monday exclusively.

Anchor Paper 1 – Score Point 3

3 points   On Monday the wheather prediction was most accurate because the low temperature predicted on monday was 48°F and the actual temperature on Monday was 48°F. The High temperature predicted on Monday was 67°F and acctual temperature was 64°F. The wind speed predicted on Monday was 5-10 mph and the acctual wind speed was 10mph. There was a 60% percent chance of rainfall on monday and on Monday there was 6cm of rain.

Anchor Paper 1
Score Point 3

The student correctly chooses *Monday* as the most accurate. The student provides an explanation that includes at least two pieces of Monday's information from the data table, a comparison of the low temperatures *(…the low temperature predicted on Monday was 48°F and the acctual temperature on Monday was 48°F.)*, a comparison of the high temperatures *(The High temperature predicted on Monday was 67°F and acctual temperature was 64°F.)*, a comparison of wind speed *(The wind speed predicted on Monday was 5-10 mph and the acctual wind speed was 10mph.)* and that it rained *(There was a 60% percent chance of rainfall on monday and on Monday there was 6cm of rain.)*.

Anchor Paper 2 – Score Point 3

3 points   On Monday the tempreture was most accurte. I know this because he predicted that it would be 48°F Low and 64°F high and it was 48° Low and 67° high.

Anchor Paper 2
Score Point 3

The student correctly chooses *Monday* as the most accurate. The student provides an explanation that includes two pieces of Monday's information from the data table, a comparison of the low temperatures *(…he predicted that it would be 48 °F Low…and it was 48 °Low…)*, and a comparison of the high temperatures *(…he predicted…64 °F high and it was…67 ° high.).*

Anchor Paper 3 – Score Point 3

3 points _The day the weather prediction was most accurate was Monday._

I think the weather predictions were accurate on Monday because the
-the high was 3°F off of the real teperature
-the low was exact

Anchor Paper 3
Score Point 3

The student correctly chooses *Monday* as the most accurate. The student provides an explanation that includes two pieces of Monday's information from the data table, a comparison of the high temperatures *(-the high was 3 °F off of the real teperature)* and a comparison of the low temperatures *(-the low was exact).* Monday's low temperature prediction can be considered exact.

Anchor Paper 4 – Score Point 2

3 points •Monday was most accurate
•One reason is the temperature is almost the same. Another reason is wind speed is 5-10 and he got 10 and 10 is in the range of 5-10.

Anchor Paper 4
Score Point 2

The student correctly chooses *Monday* as the most accurate. The student provides an explanation that includes one piece of Monday's information from the data table, a comparison of wind speed *(…wind speed is 5-10 and he got 10 and 10 is in the range of 5-10.).* The comparison of temperature difference *(…the temperature is almost the same)* lacks numerical specificity with regard to Monday's predicted and actual temperatures.

Anchor Paper 5 – Score Point 2

3 points _Monday was the most accurate. I think this because the high was 64°F on the forecast it was 67°F. All the rest of Monday's accurate so its clear Monday was the most accurate out of those four days._

Anchor Paper 5
Score Point 2

The student correctly chooses *Monday* as the most accurate. The student provides an explanation that includes one piece of Monday's information from the data table, a comparison of the high temperatures *(…the high was 64 °f on the forecast it was 67 °F.).*

Anchor Paper 6 – Score Point 2

3 points

The weather was most truth on Monday. Because on monday Temperature was 48 in low in Hight it was 64.

Anchor Paper 6
Score Point 2

The student correctly chooses *Monday* as the most accurate. The student provides two pieces of Monday's information from the data table *(…temperature was 48 in low in high it was 64.)* but does not indicate a comparison between Monday's predicted and actual temperatures. Compare to A5.

Anchor Paper 7 – Score Point 1

3 points I think on Mondy the predictions were accurate. I figured out my answer by makeing charts and graphs. I aslo compared the students answers with the weather persons answers to find out wich was closer.

Anchor Paper 7
Score Point 1

The student correctly chooses *Monday* as the most accurate. The comparison *(I also compared the students answers with the weather persons answers to find out wich was closer.)* lacks specificity and does not support the choice.

Anchor Paper 8 – Score Point 1

3 points I think Monday was most accurate because Mondays weather was closest. Also because the weather could of changed over time.

Anchor Paper 8
Score Point 1

The student correctly chooses *Monday* as the most accurate. The statement *(Also because Mondays weather was closest.)* lacks specificity and does not support the choice.

Anchor Paper 9 – Score Point 1

3 points   Monday is the most accurate because
it is so cold these days.

Anchor Paper 9
Score Point 1

The student correctly chooses *Monday* as the most accurate but does not offer an explanation that supports the choice.

Anchor Paper 10 – Score Point 0

3 points   On Monday I think
the weather
predicted will
happen on most accurate
The reason why I think
this from looking at the
table or chart or cast
The other day I think
is Wednesday. The reason
why I think this is
I look at the table and
I look at the weather cast.

Anchor Paper 10
Score Point 0

The student does not choose Monday exclusively as the most accurate *(On Monday I think the weather predicted will happen most accurate…. The other day I think is Wednesday.).*

Anchor Paper 11 – Score Point 0

3 points _The day the weather was most accurate was Wednesday. The reasons are that the high was 59°F and the predicted high was 60°F. The low was 37°F and the predicted low was 41°F. Also the wind speed was 28 mph. The predicted wind speed was 20-30 mph. The last reason is the rainfall was 12 cm. There was a 90% chance. Of precipitation._

Anchor Paper 11
Score Point 0

The student does not choose Monday as the most accurate *(The day the weather was most accurate was Wednesday.).*

Anchor Paper 12 – Score Point 0

3 points　He used rainfall to measure the forcast and used it for the hole week to show How much rainfall and highs and lows. He used wind speed to.

Anchor Paper 12
Score Point 0

The student does not choose Monday as the most accurate.